

Technological emergencies expert system (TEES)

ABSTRACT

Purpose - To provide the graduate students, researchers, responsible personnel at major hazards installations (MHIs) with background on the technological emergencies, expert system (ES), and technological emergencies expert system (TEES) development.

Design/methodology/approach - The design and development of an ES is achieved through six recommended phases. The assessment phase represents the problem feasibility and justifications. In TEES, the problem was identified that Malaysia has experienced several technological disasters. The process of acquiring, organizing, and studying knowledge is known as the knowledge acquisition. The qualitative and quantitative knowledge are needed to build the TEES. A general knowledge was obtained from the literature sources. The quantitative knowledge was obtained through a field survey and domain expert interview. The information, which has been obtained from the field survey through the questionnaire, was arranged and coded into software called Statistical Package for Social Sciences. Regression models were derived. The regression models were incorporated into the TEES. wxCLIPs have been used as a medium for the development the ES.

Findings - It provides the background and basis for further research in disaster management in Malaysia. The TEES can be employed to control the major hazards at the MHIs through the identification, control, and mitigation programs. The knowledge, which has been put into the system, can be modified, updated, and reproduced.

Originality/value - The TEES is versatile, portable, reliable and applicable to other emergencies applications. The system can be saved on CD and distributed to MHIs managers and related authority. The system, therefore, can contribute to improve awareness through providing information and knowledge to end-users. The ES also can be used for classroom instructions.

Keyword: Computer software; Hazards; Knowledge management systems; Malaysia; Man-made disasters